

*Jack —
Your comments will
be appreciated,
Bill*

*P.S. We all miss you
already.*

X - for Esther

MEMORANDUM

January 21, 1959

TO: Dr. Nathan Smith, Pediatrics

FROM: Bill Stone, Genetics

SUBJECT: Possible investigations with individuals who have had neonatal exchange transfusions.

1. Examine blood types for mosaicism (chimerism): Since whole blood is generally used in exchange transfusions, it is possible that some cells are transplanted to the host which can maintain themselves as part of the hemopoietic system. A careful study of the blood type of the host might reveal chimerism of the cells. It would be advantageous to have the blood type of the donor as well as a complete battery of human blood typing reagents. Starch electrophoresis could be done to look for chimerism of serum substances.
2. Try skin homotransplants: If chimerism exists, skin transplants should take. Also, if tolerance were engendered and maintained, skin grafts should take. It would require skin from the donor.
3. Response to immunization with blood: If the host were made tolerant to type specific antigens of the blood, he may fail to respond following immunization with blood from the donor of an individual with similar blood type.
4. Observations on general immunological competence: If there were some "generalized" tolerance as a result of the transfusion, the host may be less competent immunologically than his contemporaries. A study of his responses to immunizations, vaccinations, etc. might reveal an effect.
5. Examination of serum for naturally occurring antibodies: Since blood compatible for the ABO groups is likely to be used, it is doubtful that tolerance would be engendered for any of these antigens (also true for #3 above). However, there is a possibility that the naturally occurring antibodies were inhibited. Controls for these observations might be sibs of the hosts.

In my opinion, all of these observations could be made here. We could attempt at least a preliminary examination of the blood. The transplants and immunizations would, of course, require the services of a person from the Medical School.

Bill Stone

/lmb

STONE, W.H.